

Date: Mon, 26 Sep 94 04:30:18 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #285
To: Ham-Homebrew

Ham-Homebrew Digest Mon, 26 Sep 94 Volume 94 : Issue 285

Today's Topics:

 High Voltage Screen Supply
 Plans for 2M 50W solid state amp
 Reuse surface mount parts?
 Where to find "micro" phone plug

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 24 Sep 1994 15:57:26 GMT
From: ihnp4.ucsd.edu!agate!msuinfo!netnews.upenn.edu!news.drexel.edu!news.ge.com!
knight.vf.ge.com!nadir!hbrown@network.ucsd.edu
Subject: High Voltage Screen Supply
To: ham-homebrew@ucsd.edu

I'm looking for a reference to a high voltage screen power supply for an RF high
power amplifier. I'd like a shunt regulated supply so that it has a low impedance
and preferable variable voltage around 300 to 400 volts or so. I know that basic
regulators can be made using VR tubes but I'm looking for something more robust
and with some adjustment capability. I'm sure that I've seen one in some magazine
in the past but my memory fails me. Anyone remember seeing one and where?

73, Harry, W3IIT
hbrown@resd.vf.ge.com

Date: 23 Sep 1994 16:34:05 GMT

From: library.erc.clarkson.edu!rpi!marcus.its.rpi.edu!lascal@uunet.uu.net
Subject: Plans for 2M 50W solid state amp
To: ham-homebrew@ucsd.edu

Oh, what I forgot to suggest:

try to get your hands on a copy of the motorola rf data books... preferably the 88 edition.. they have appnotes and usually a test circuit for most of their devices.

-Lance

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Lance Lascari WS2B <lascal@rpi.edu> Senior EE @ Rensselaer Polytechnic Inst.
Mount Greylock Expeditionairy Farce Secret agent #52,342

Date: Wed, 21 Sep 1994 12:16:06 GMT
From: ihnp4.ucsd.edu!ucsnews!sol.ctr.columbia.edu!spool.mu.edu!
howland.reston.ans.net!gatech!wa4mei!ke4zv!gary@network.ucsd.edu
Subject: Reuse surface mount parts?
To: ham-homebrew@ucsd.edu

In article <1994Sep20.134027.17693@arrl.org> zlau@arrl.org (Zack Lau (KH6CP)) writes:

>Mike Czuhajewski WA8MCQ (Mike.Czuhajewski@hambbs.wb3ffv.ampr.org) wrote:
>: When you remove SMDs and subsequently solder them
>: again, are they likely to survive? Or do they tend to sustain a lot of
>: damage, or tend to have vastly reduced lifespans? (This is assuming
>: use of low wattage irons with tiny tips, for both removal and
>
>No, this isn't the way to remove them. You want lots of heat and solder
>so they literally slide off the board. A big iron with a large tip is
>in order. Some people might even recommend a torch of some sort, but I
>use a 100 watt iron to solder even waveguide!

Zack's right, you want a lot of heat fast in order to remove SMDs without damage. I find a static hot air source ideal (a Weller Pyropen with the hot air attachment works well), but since they're a tad expensive, you can get by with an ordinary propane torch. Just hit the part with the torch (briefly) and tap the board on the bench. If your technique is right, the part will fall off without even a scorch mark. This is something you definitely want to practice before trying it out on an expensive board. If you hold the torch on the board a tad too long, it'll be charcoal.

For soldering a part onto a board, the hot air source is also ideal. Just clean and tin the pads, put a smidge of flux on with a toothpick, set the part in place with tweezers (the flux will hold it), and hit

it briefly with the hot air source. The surface tension of the solder will pull the part into perfect alignment on the board. This is a lot easier and faster than dealing with thru-hole boards and parts.

Gary

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| Destructive Testing Systems | | we break it. | | uunet!rsiatl!ke4zv!gary |
| 534 Shannon Way | | Guaranteed! | | emory!kd4nc!ke4zv!gary |
| Lawrenceville, GA 30244 | | | | gary@ke4zv.atl.ga.us |

Date: 25 Sep 1994 15:06:03 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!swrinde!news.uh.edu!
news.sccsi.com!nuchat!acs@network.ucsd.edu
Subject: Where to find "micro" phone plug
To: ham-homebrew@ucsd.edu

Hi Hank:

I bought a stainless steel stereo plug (I think it's stainless) locally for \$1.75 to use on my IC2-AT mike socket for packet. It turned out to be too long so I went back to the Radio Shack 2 cond. plug. Works fine. The stainless one was purchased at City Electronics in Houston, TX. He doesn't do mail order. One man show in a shop full of builder's parts!

Let me know if you need some hard to get parts and I'll see if it's available here.

73 de A.C., W5EZM

pouelle@uoft02.utoledo.edu wrote:

: In article <35veu0\$3o2@news.ysu.edu>, au156@yfn.ysu.edu (Hank Riley) writes:

: >

: >

: >Looking for a 3/32 inch (2.5 mm) three contact (stereo)

: >miniature phone plug for a Alinco HT to TNC cable.

: >

: >Gad, these are hard to find! Best I can do so far is

: >an adapter from Radio Shack, not just a plug. Any

: >suggestions?

: >

: >Hank, N1LTV

: I got one a a local electronics parts store (not RadioShack) for around \$1

: I have seen them in Mouser's catalog and a few others. If you can't find

: one email me with your snail mail address and I can send you one.

: 73
: Patrick
: KB8PYM
: pouelle@uoft02.utoledo.edu
: pouelle@utphysa.physa.utoledo.edu

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|--------------------------------------|--------------------------|
| A. C. Spraggins | acs@sccsi.com |
| South Coast Computing Services, Inc. | w5ezm@sugarland.ampr.org |
| 1811 Bering, Suite 100 | (713) 917-5000 |
| Houston, TX 77057 | (713) 917-5005 fax |

Date: Fri, 23 Sep 1994 13:51:55 GMT
From: ihnp4.ucsd.edu!ucsnews!sol.ctr.columbia.edu!spool.mu.edu!
howland.reston.ans.net!gatech!wa4mei!ke4zv!gary@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <CwFwuA.96u@odin.corp.sgi.com>, <CwHI7G.7M1@freenet.carleton.ca>,
<CwICzB.CDB@news.Hawaii.Edu>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Reuse surface mount parts?

In article <CwICzB.CDB@news.Hawaii.Edu> jeffrey@kahuna.tmc.edu (Jeffrey Herman)
writes:

>In article <CwHI7G.7M1@freenet.carleton.ca> ae517@FreeNet.Carleton.CA (Russ
Renaud) writes:

>>Heat guns sold at the hardware store to strip paint, etc are generally hot
>>enough to melt solder.

Yes, they actually have too high a temperature, over 800 F, and their
heat is spread over too large an area. You can use a variac to cool
them down a bit, and sheetmetal nozzle shrouds to direct the hot air
exactly where you want it to go. Then they do OK. There are much better
hot air sources available, however.

>I've always used a heatsink (needle nose pliers) when soldering
>transistors. Are IC's so heat resistant that no heatsink is
>necessary to prevent damage?

Sure are, and so are most transistors newer than the old point contact
types. I *never* use a heatsink, and have *never* lost a modern silicon device
due to heat from soldering. Of course you have to have clean tinned surfaces,
flux, the right amount of heat, and be quick. A high capacity heat source
is better than one too small. If it takes more than a second from application
of the heat to flowing solder, your heat source is too small, and heat will
have time to migrate up the leads into the device (and down the trace, melting

the trace bond to the board).

People make two major mistakes when working with SMDs (and even with leaded parts). The first mistake is to use too high a temperature, and the second is to supply too few BTUs. Remember that temperature and heat are two different things. You want to keep the temperature down, 600 F is as hot as you should ever allow your heat source to be for soft soldering. But you need to have the heat flow way up. This is where the hot air sources really shine. They can deliver a lot of BTUs quickly.

If you are using an iron, tip selection is very important. You don't want a fine conical point tip. That won't allow rapid heat transfer. You want a chisel point tip to give you more contact area. Ideally, the tip will be just as wide as the lead and/or trace that you're working with. It should either be backed by a large thermal mass, or a very good closed loop temperature controller, so that it isn't chilled by the work. And it should be frequently tinned and fluxed so that there's a good heat conducting surface to the contact point. If solder won't flow nearly immediately when you apply the iron, you're doing something wrong, and can damage parts and boards.

Gary

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| Lawrenceville, GA 30244 | | | | gary@ke4zv.atl.ga.us |

Date: Wed, 21 Sep 1994 12:22:16 GMT
From: ihnp4.ucsd.edu!ucsnews!sol.ctr.columbia.edu!spool.mu.edu!
howland.reston.ans.net!gatech!wa4mei!ke4zv!gary@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <1994Sep17.221056.23096@wb3ffv.wb3ffv.ampr.org>,
<1994Sep20.134027.17693@arrl.org>, <CwFwuA.96u@odin.corp.sgi.com>e4zv
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Reuse surface mount parts?

In article <CwFwuA.96u@odin.corp.sgi.com> adams@chuck.dallas.sgi.com (chuck adams) writes:

>

>A torch would most likely destroy any markings, thus rendering the use
>of the SMT devices a real guessing game and a lot of time expended in
>determining part values, etc.

I've never found this to be true. In fact, the markings generally seem to brighten up a bit after the torch is applied. The markings are designed to remain readable when the part is soldered, and they are hot air soldered at the factory. (The factory usually doesn't use a hand operated static hot air source of course. They usually use a hot oil vapor process or an infrared process, but the heat is the same.)

Gary

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End of Ham-Homebrew Digest V94 #285
